WELDER

JOB DESCRIPTION

Welders use hand-held or remote-controlled equipment to join, repair, or cut metal products. They:

- Read and interpret blueprints, sketches, and specifications
- Calculate/measure the dimensions of parts to be welded
- Inspect structures/materials to be welded, looking for defects
- Weld materials according to blueprint specifications
- Monitor the welding process and adjust heat as needed
- Maintain equipment and machinery
- Operate safety equipment and demonstrate safe work habits

PAY

$51,000 per year ($24.52/hour) as of May 2024.

JOB OUTLOOK

2% (slower than average) 2024-34, per the US Bureau of Labor Statistics; according to the American Welding Society:

- 320,000 new welding professionals are projected to be needed by 2029.
- 80,000 average welding jobs are projected to be filled annually between 2025–2029.

EDUCATION/TRAINING

There are no state requirements for welders in Ohio, but completing accredited welding training can give welders an advantage in the hiring process. Organizations generally prefer welders who are certified by the American Welding Society (AWS) or a program that meets AWS welding training guidelines.

IMPORTANT SKILLS/ ATTRIBUTES

- Manual dexterity
- Detail oriented
- Physical strength and stamina
- Spatial-orientation skills
- Communication skills
- Strong work ethic
- Ability to read blueprints
- Mathematical skills

WELDING TYPES

SMAW
Shielded Metal Arc Welding/Stick Welding

Known for durability in tough environments; requires cheap equipment. Frequently used for pipeline work, heavy equipment repair, and farm maintenance.

FCAW
Flux Cored Arc Welding

Perfect for heavy-duty outdoor construction and structural applications where wind would blow away a shielding gas.

GMAW
Gas Metal Arc Welding/ MIG/MAG Welding

Fast and easy to learn, ideal for manufacturing, automotive repairs, and projects in a garage.

GTAW
Gas Tungsten Arc Welding/ Tungsten Inert Gas (TIG) Welding

Results in incredibly clean, high-precision, and aesthetically pleasing welds. Widely used in aerospace, bicycle frames, and custom metal artwork.

CERTIFICATE & DEGREE PROGRAMS

ASHTABULA COUNTY TECHNICAL & CAREER CAMPUS (Jefferson)
Industrial Welding Certification course—a 300-hour (approx. 6-month) program with training in Stick, MIG, and TIG processes. Students learn Oxyacetylene Cutting, Blueprint Reading, and Applied Math.
actc.axstudent.com/#/category/W0/program/V88

AUBURN CAREER CENTER (Concord Twp.)
Welding Program—The program is designed to teach welding fundamentals, including Stick, MIG, and TIG welding, and advanced welding topics. auburncc.axstudent.com/#/category/b3

CERTIFICATE & DEGREE PROGRAMS *(continued)*

CLEVELAND STATE UNIVERSITY (Cleveland)
Online Welding Technician Certification—a 4-6 month program to prepare for entry-level welding.
csuohio.edu2.com/product/5091/welding-technician

CUYAHOGA COMMUNITY COLLEGE (Cleveland)
Introductory Welding Short-Term Certificate—basic training in the fundamental skills of Stick, MIG, TIG, and Oxy-fuel welding technologies.

Industrial Welding Certificate of Proficiency—a one-year program providing basic training on the fundamental skills of Stick, MIG, TIG, and Oxy-fuel welding. Students can earn multiple certificates.

Industrial Welding Associate of Applied Science (AAS)—Covers a wider range of comprehensive welding techniques, materials, and industry regulations.
www.tri-c.edu/workforce/industrial-welding/index.html

FORTIS COLLEGE (Cuyahoga Falls)
Welding Technology Training Program—designed to train students in the skills needed for entry into the welding field as industrial welders, welding apprentices, or check welders.
www.fortis.edu/programs/skilled-trades.html

LAKELAND COMMUNITY COLLEGE (Kirtland)
Welding Certificates can be earned in as little as one semester. Available certificates: GMAW (MIG/MAG) Welding, GTAW (TIG) Welding, Oxyfuel Gas Welding and Cutting, Pipe Welding, or Stick Welding.

Associate of Applied Science (AAS) Degree in Welding and Fabrication Technology: Certificates can be stacked to earn this degree.
www.lakelandcc.edu/web/about/industrial-welding-departments

Associate of Technical Studies in Welding & Fabrication Technology, Lincoln Electric Partnership: Allows students to take welding classes at both Lakeland and Lincoln Electric, and then complete the other classes required for the associate degree online. There is a second option to earn the ATS degree by taking all coursework at Lakeland.
www.lakelandcc.edu/web/about/welding-partnership-cim

LINCOLN ELECTRIC WELDING SCHOOL (Euclid)
Welding Technology Training Programs—Offers a variety of classes, including certification or customized and comprehensive programs.
www.lincolnelectric.com/en/education

MAPLEWOOD CAREER CENTER (Ravenna)
Modular Welding and Welding Technologies
- Welding Technologies (36 weeks, 612 clock hours)
- Modular Welding (9 weeks, 153 clock hours)

www.mwood.cc/workforce-development/programs/ trade-industry/

LORAIN COUNTY COMMUNITY COLLEGE (Elyria)
- *Certificates of completion in (1) Welding Technology and AWS-3F Certification Preparation, (2) Gas Metal Arc Welding*
- *Short-term certificates in Welding Technology, Basic Welding, Welding Visual Inspection, and Advanced Welding*
- *Welding Operator One-Year Certificate*

www.lorainccc.edu/engineering/welding/

OHIO TECHNICAL COLLEGE (Cleveland)
Associate of Applied Science in Welding Fabrication Technology (48 weeks, 1420 clock hours)
www.ohiotech.edu/programs/welding-fabrication-technology/

POLARIS CAREER INSTITUTE (Middleburg Hts.)
Welding Program—A 35-week (600-hour) program covering welding safety/machine operator safety; blueprint fundamentals; oxyfuel cutting and welding; plasma cutting, base metal preparations; weld quality/visual inspection; basic SMAW, TIG, MIG, and FCAW welding; introduction to pipe welding; and virtual reality welding.
www.polaris.edu/o/pcc/page/welding

THE OHIO STATE UNIVERSITY (Columbus, OH)
Bachelor of Science in Welding Engineering—a four-year degree program focused on the metallurgy and science of the welding process and all of the activities related to the design, production, performance, and maintenance of welded products.
mse.osu.edu/undergraduate/major-welding-engineering

ADDITIONAL RESOURCES

AMERICAN WELDING SOCIETY:
www.aws.org/home

OHIO TECHNET WELDING CAREER PATHWAYS:
otn.skillscommons.org/welding/
otn.skillscommons.org/wp-content/uploads/2022/10/career_pathways_welding.pdf